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(54) INFORMATION NETWORK SYSTEM AND NAVIGATION DEVICE

(57)Abstract:

PROBLEM TO BE SOLVED: To efficiently input user information by performing bidirectional communication with a database center guided by the telop in television broadcasting.

SOLUTION: A user controls information to be transmitted to a data-base center 300 in addition to the ordinary television operation of a navigation television 100 by a remote controller 109. At the time of a communication modeinformation is communicated by performing auto-dialing and auto-log-in through a public line 200 to the center 300 while using network service access destination guide information synchronized with the broadcast program of a broadcast center 400. In this casea telephone set 150 can be connected to the television 100. Besidesa telephone linebidirectional cable network such as ISDN and CATV or radio network such as mobile radio can be utilized for the line 200and the center 300 can be connected through personal computer communication or internet in addition to the direct public line connection.

CLAIMS

[Claim(s)]

[Claim 1]In an information network system with which television broadcasting and a network service were unitedA function which inserts notice information required for database access in a retrace line period synchronizing with a TV signaland transmits to a broadcasting center is givenNavigation television which has the database accessing function which used said notice information for a user terminal with reception of television is preparedAn information network system provided with a function where bidirectional information and telecommunications are made between navigation televisions in a database center accessed through a network corresponding to service introduced by a TV program.

[Claim 2]The information network system according to claim 1 which transmits said notice information using a part of recognition signal of a teletext or an EDTV-II method.

[Claim 3]The information network system according to claim 1 or 2 which transmits said notice information to a TV program synchronizing with passing guidance telopssuch as shoppingquizand a questionnaire.

[Claim 4]The information network system according to claim 12or 3 which uses a dial-up linemobile radioor an ISDN circuit as a network which connects a database center with said navigation television.

[Claim 5]The information network system according to claim 12or 4 which uses a personal-computer-communications network or the Internet as a network which connects a database center with said navigation television.

[Claim 6]The information network system according to claim 12or 4 which uses a bidirectional cable network as a network which connects said navigation televisiona database centerand a broadcasting center.

[Claim 7]The information network system according to claim 12345or 6 which equipped said network and a database center with an online registration function of ID required for network accessor a password.

[Claim 8]Navigation television comprising:

A television set which has a function which decodes notice information inserted in a retrace line period.

A memory which stores User Informationsuch as user ID.

A modem which communicates with a database center via a network.

An information input devicean information display deviceand a communication control unit that controls an input of informationtransmission and receptionand a display.

[Claim 9]The navigation television according to claim 8 which used a

character multiplex television set or a television set corresponding to EDTV-II for decoding notice information.

[Claim 10]The navigation television according to claim 8 or 9 using non-destroying semiconductor memorya magnetic diskor an optical disc as a memory which stores User Information.

[Claim 11]The navigation television according to claim 8 or 9 using a magnetic card removable as a memoryan optical cardor an IC card which stores User Information.

[Claim 12]Navigation television using the credit card according to claim 8 or 9 as a memory which stores User Information.

[Claim 13]The navigation television according to claim 891011or 12 which realized information inputting with a remote controller.

[Claim 14]Autodial using a telephone number and database ID which are contained in notice information in communications control with a database center in said navigation televisionthe navigation television according to claim 89101112or 13 made into auto-login.

[Claim 15]The navigation television according to claim 8910111213or 14 which realized communications control which controls storing of User Informationan input of informationtransmission and receptionand a display by personal computer with a built-in modem or a game machine with a built-in modemand program software.

[Claim 16]The navigation television according to claim 8910111213or 14 which realized said navigation television by personal computer with a built-in modem with a television reception function or a game machine with a built-in modem with a television reception functionand program software.

[Claim 17]The navigation television according to claim 891011121314150r 16 which made communication of a password or a credit number encryption communication.

[Claim 18]The navigation television according to claim 89101112131415160r 17 provided with an add function of ID required for network accessor a password in communications control of said navigation television.

[Claim 19]The navigation television according to claim 89101112131415160r 17 which a response indication transmitted from a database center is displayed on a screenand is changed into a sound and outputted from a speaker.

[Claim 20]In an information network system with which a radio broadcast and a network service were unitedA function which transmits notice information required for database access to a broadcasting center synchronizing with a radio program is givenNavigation radio which has

the database accessing function which used said notice information for a user terminal with reception of radio is preparedAn information network system provided with a function where bidirectional information and telecommunications are made between navigation radios in a database center accessed through a network corresponding to service introduced by a radio program.

[Claim 21]The information network system according to claim 20 which transmits said notice information using data broadcasting.

[Claim 22]Navigation radio comprising:

A radio set which has a function which decodes notice information transmitted synchronizing with a radio program.

A memory which stores User Informationsuch as user ID.

A modem and an information input device which communicate with a database center via a network.

An information display device and a communication control unit which controls an input of informationtransmission and receptionand a display.

[Claim 23]The navigation radio according to claim 22 which used a data-broadcasting receiver for decoding notice information.

[Claim 24]The navigation radio according to claim 22 or 23 using a magnetic card removable as a memoryan optical card or an IC card which stores User Informationor a credit card.

[Claim 25]Autodial using a telephone number and database ID which are contained in notice information in communications control with a database center in said navigation radiothe navigation radio according to claim 2223or 24 made into auto-login.

[Claim 26]The navigation radio according to claim 222324or 25 which realized said navigation radio combining mounted radio and a mounted telephone.

[Claim 27]The navigation radio according to claim 22232425or 26 which made communication of a password or a credit number encryption communication.

DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention]This invention relates to the navigation technology with a two-way communication function with which network servicessuch as broadcast and a databasewere united.

[0002]

[Description of the Prior Art]It is only that the conventional television (receiving set) displays the picture transmitted by radio or the cable from a broadcasting stationand the information and telecommunications between the users of television are generally only one direction. In order to use the TV shopping service etc. which are guided with broadcast guidance from the user sidea service center will be telephonedbut memo picking of a telephone numberetc. are requiredand it is troublesomeand a telephone becomes busy easily. In the service center sideindividual correspondence with the user who telephones takes a helpand sufficient information for a short time cannot be obtained.
[0003]As a method of solving thisthe television with a two-way communication function which equipped the television set with the communication control circuit which carries out two-way communication to a broadcasting station is proposed by JP7-79425A. Howeverin this methodthe user can communicate only between broadcasting stations but a utilizing method is limited substantially. On the other handin the shopping database service using personal computer communicationsthere is much troublesome worksuch as a check of the whereabouts of a database centerreservation of an accessing methodand a check of whether a service content suits hopeand the general public cannot use easily.
[0004]

[Problem(s) to be Solved by the Invention]Thusthe present television is the requisite and was not able to say 1 direction communication with it being suitable to bidirectional information exchange with the purveyor of service using television. Thenthe purpose of this invention is to provide the navigation device which are an information network system in which the bidirectional signal transduction between the database service donor and user using broadcast is possibleand its user terminal in view of an above-mentioned point.
[0005]

[Means for Solving the Problem]In order to attain such a purposean invention of claim 1In an information network system with which broadcast television and a network service were unitedA function which inserts notice information required for database access in a retrace line period synchronizing with a TV signaland transmits to a broadcasting center is givenNavigation television which has the database accessing function which used said notice information for a user terminal with reception of television is preparedAn information network system provided with a function where bidirectional information and telecommunications are made between navigation televisions in a database

center accessed through a network corresponding to service introduced by a TV program is provided.

[0006]Claims 2-3 provide how a teletext synchronizes [how to send notice information] a part of recognition signal of use and an EDTV-II method with use and a guidance telop of a TV programrespectively in an invention of claim 1.

[0007]Claims 4-6 provide a method of using a public linepersonal computer communicationsthe Internetand a bidirectional cable networkas composition of a network and a database center in an invention of claim 1respectively.

[0008]A modem with which an invention of claim 8 communicates with a database center via a television set which has a function which decodes notice information inserted in a retrace line perioda memory which stores User Informationsuch as user IDand a networkNavigation television provided with an information input devicean information display deviceand a communication control unit that controls an input of informationtransmission and receptionand a display is provided.

[0009]As a memory which stores User Information in claim 8claims 10-11 use nondestructive memorya removable card memoryand a credit cardrespectively.

[0010]Claims 14-19respectively as the method of communications control of navigation television of claim 9and a database centerA method of carrying out autodial auto-logina personal computer (or game machine) with a built-in modem and a method of using program softwareA method of changing a personal computer (or game machine) with a built-in modem with a television reception functiona method of using program softwarea method of using encryption communicationa method provided with a new registration function of ID or a passwordand a response indication into a soundand outputting them is provided.

[0011]Claims 20-21 apply this invention to radioand provide an information network system which can perform easily two-way communication of a user of navigation radio possessionand a database center by broadcasting notice information of network access by data broadcasting etc. synchronizing with a radio program.

[0012]As navigation radio which carries out two-way communication to a network base center using notice information broadcast synchronizing with a radio programclaims 22-27Respectivelybasic constitutiona method of using a data-broadcasting receivera method of using a removable card as a storing memory of User Informationautodialan auto-login functionmounted radio and a method of using a mounted telephoneand a method of using encryption communication are provided.

[0013]In order to add and transmit notice informationsuch as a telephone number required for database accessto television broadcasting in an invention of claims 1-7to receive a user terminal and to use this for database accessIt comes to be able to do two-way communication simply between database centers to which it was shown to a user on television. In a database centerstate exchange with a user can be carried out efficiently in a short timewithout through a help.

[0014]In an invention of claims 8-19navigation television as a user terminal is cheapand it is easy to use itand it is provided safely.

[0015]In an invention of claims 20-27a cheaper and information network system available also at a mobile like mounted radio and its user terminal are provided by replacing with television broadcasting and using a radio broadcast.

[0016]

[Embodiment of the Invention]Hereafterwith reference to drawingsthe example of this invention is described in detail. Drawing 1 shows the system configuration of the example of this invention. In drawing 1when this invention is applied to televisionthe navigation device 100 expresses navigation television and the broadcasting center 400 shows a television broadcasting center. On the other handwhen this invention is applied to radiothe navigation device 100 expresses navigation radio and the broadcasting center 400 shows a radio broadcast center.

[0017]Firstit explains per television application. The navigation television 100 has a function which decodes the notice information transmitted synchronizing with a TV signaland connects it to the database center 300 via the public line 200and it has a function which communicates. Notice information comprises a telephone number of a database centerdatabase IDTV program IDetc.

[0018]Broadcast the program which expects the reaction of televiewerssuch as shoppingquizand a questionnaireby a TV programand how to use this service. Pass guidance telopssuch as a telephone number which a televiewer should applyand attention is calledand the notice information which consists of program IDa telephone number of a database centerdatabase server IDetc. is transmitted synchronizing with a TV program. Herewith a TV programthe spot commercial program inserted between [other than the usual TV programs (baseball relay broadcast etc.)] a commercial program or a programand a program can be used.

[0019]As a method of transmitting notice information synchronizing with a TV signala part of retrace line period of a TV signal is used for data communications. The method of specifically transmitting notice information instead of character transmission of the teletext defined

with the postal administration ministerial ordinance No. 77 of October 15Showa 60 issueA part of recognition signal by which multiplex is carried out to two vertical-retrace-line scanning lines (the 22nd and the 285th) of second generation EDTV (common-name EDTV-II and interpretive article Nikkei electronics no.638p1401995.6.19) defined with the postal administration ministerial ordinance No. 51 of July 4Heisei 7 issue is used. For exampleif the bits 15 and 16 of the undefined of an EDTV-II method are usedsince 4 bits can be used for one framea data signal of 120 bits/s can be transmitted.

[0020]Notice information is synchronized with the guidance telop of a TV programetc.and is transmitted. Since a program is continued for 15 seconds the shortest1800-bit data can be transmitted in the meantimeand notice information including an error correction function can be transmitted enough.

[0021]A user performs the usual television operation of the navigation television 100 with the remote controller 109and also controls the information transmitted to the database center 300. using notice information in communicate mode -- a database center -- autodial -- auto-login can be carried out and information and telecommunications are carried out to the database center 300 via the public line 200. It is possible to connect the telephone (handset) 150 to the navigation television 100. Wireless networks of a public linesuch as bidirectional cable networkssuch as a telephone lineISDNand CATVand mobile radioetc. are availableand a database center can be connected via personal computer communicationsthe Internetetc. besides public line direct connection.

[0022]The appearance of the navigation television 100 is shown in drawing 2. In drawing 2the same numerals are given to the same part as drawing 1and detailed explanation is omitted. Although the window 113 is not opened at the time of the usual receptionnotice informationUser Informationand communication information with a database center are displayed at the time of communicate mode. The navigation television 100 converts a character multiplex television set and the television corresponding to EDTV-IIcan add a communication control function or can realize them also by a personal computer with a built-in model with a television television functionand program software. The cable connection by CATV is also possible instead of an antenna. It is also possible to substitute bi-directional CATV for telephone and a public line.

[0023]The circuitry of the navigation television 100 is shown in drawing 3. The following circuits are connected to the common bus 110 in drawing 3.

[0024]CPU101 performs control by the whole device according to the system program stored in the read-only memory (ROM) 102. The information delivered and received between the circuits connected to the common bus 110 is read from the circuit of the transmitting side by CPU101and is written in the circuit of a receiver. Although mentioned laterCPU101 operates as a communication control circuit of this invention.

[0025]ROM102 stores beforehand the font translation table for changing into a character pattern the data used in execution of this program besides a system program for CPU101 to performfor examplethe character code string used as a message for a displayand a character code. The random access memory (RAM) 103 carries out the primary storage of the result of an operation of input dataoutput dataand CPU101.

[0026]The nondestructive memory 104 carries out archival memory of User Information in connection with this invention. As User Informationthere are user ID (identification code)a namean addressa telephone numberetc. In additionalthough sexa date of birthnationalityan occupationa blood groupetc. can be consideredthese are properly used with a utilization object. User ID information is used for the collation with the password which the user enteredand transmission to a communication destination. The nondestructive memory 104 is chosen and used according to a use from non-destroying semiconductor memory (a programmable memorya flash memorya ferroelectric memoryetc.)an IC carda magnetic cardan optical carda magnetic diskan optical discetc. When using a removable cardsince it separates from navigation television and User Information can be keptit can be easily used not only for the navigation television of a house but for the navigation television of friend's house or a hoteland is convenient. If a credit card is usedthe input of the account number of settlement of accounts will become unnecessaryand facilities' will improve further.

[0027]The input/output interface (I/O) 105 transmits the directions of operation from CPU101 to the modem 111. Directions of a change of the modem 111 and the handset 150 are received from CPU101. In this examplethe modem which has the automatic call origination function to call a database center according to directions of the telephone number from the outside (in this caseCPU101) is used for the modem 111.

[0028]The main part 106 of a television (TV) receiving set displays a television pictureand also has a function which carries out the visible display of the information received via the public line 200 from the function which decodes the notice information inserted in the television retrace line periodthe decoded notice informationand the database center 300. Although the navigational panel 107 is installed in the main part

106 of a television setit is connected to the common path 110 in circuit.

[0029]The navigational panel 107 is equipped with the electric power switchthe volume switchthe ten keyand the control key on the navigational panel 107. A ten key is used by the normal mode for the channel selection of a broadcasting stationand it uses for the input of coded data as an input circuit of this invention in communicate mode. A control key consists of executiona stopcancellationetc.and is used for cancellation of communicative executiona stopand a ten key inputetc.respectively.

[0030]The receiving circuit 108 receives the input signal transmitted by radio from the remote controller 109. The remote controller 109 has the same input switch as the navigational panel 107and transmits an input signal on radio.

[0031]The circuitry of the main part 106 of a television set is shown in drawing 4. In drawing 4the television video signal received with the antenna 51 is sorted out in the tuner 52. It gets over in the demodulator 53and the selected television video signal is compounded with the window image stored in the video memory 54 under control of the controller 55 for a displayand is displayed on the display 56.

[0032]The decoder 112 decodes the notice information inserted and transmitted to a retrace line period synchronizing with a TV signal. Specificallythe decoder for teletexts and the decoder for EDTV-II can be used. To the video memory 54it is accessible in CPU101 of drawing 3. Although the notice information decoded by the decoder 112 is once stored in RAM103 with directions of CPU101Thenwith the information received from the database center 300with the gestalt of a character patternwhen CPU101 writes in the video memory 54it becomes possible to display text on the window display screen of the display 56.

[0033]In such compositionif the normal mode is directed from the navigational panel 107 or the remote controller 109 of drawing 2CPU101 will set up the normal mode and will transmit the directions of operation inputted from the navigational panel 107 or the remote controller 109 to the television receiver 106. When CPU101 receives directions of communicate modecommunicate mode is set up and information is exchanged between the navigation television 100 and the database center 300 in a protocol procedure as shown in drawing 6.

[0034]The system configuration of the database center 300 is shown in drawing 5. If the sub computer 304 linked to the public line 200 is connected with the navigation television 100information processing described below will be performed with the host computer 303and response transmission of the response indication which becomes settled from this

information processing result will be carried out to the navigation television 100. Into the host computerthe ID information corresponding to the notice information transmitted to a TV signal by carrying out multiplex is registered beforehand. The host computer 303 receives ID information from the sub computer 304 via the bus 305and performs collation of this ID informationand processing which detects the specific ID information in the received ID information. The keyboard 301 performs information inputting to the host computer 303. CRT(display) 302 carries out the visible display of the information which a host computer directs.

[0035]As a public line and a constitution method of a database centervarious gestaltensuch as the method of connecting a database server to personal computer communications or the Internetthe method of using an ISDN circuitand a method of using the database service of a telecommunications companyare possible. It is also connectable with a database center via ****** CATV.

[0036]The information transmission processing performed in the system described above is explained referring to the flow chart of drawing 7 and drawing 8. The flow chart of drawing 7 shows the contents of the system program which CPU101 of drawing 3 executes. This system program is indicated with the program language which can perform CPU101and is stored in ROM102. The flow chart of drawing 8 shows the contents of the system program which the sub computer 304 of the database center 300 of drawing 5 executes. This system program is also indicated with program languageand is stored in the sub computer 304. As for the statement of drawing 7 and drawing 8explanation is expressed functionally for convenience.

[0037]A user watches a shopping program with a broadcast television set as an example of communicate modeand the case where a user applies for shopping to the database center 300 of a selling agency is explained. Initial setting of the normal mode is carried out to a power up.

[0038]A user performs program selection using the navigational panel 107 or the remote controller 109. As a resultthe television picture of the shopping program of the specified channel is displayed on the display 56. Insert the telop which shows the telephone number of the telop which stimulates starting of communicate mode during shopping program broadcastand a communication destination in the broadcasting station side into a television pictureand. The notice information which consists of program IDa telephone number of a database centerdatabase server IDetc. is sent out using a TV signal retrace line period. How to use a retrace line period has a method of using the retrace line period

defined the method of using the retrace line period defined for teletextsand for EDTV-II.

[0039]A user directs communicate mode by operating the execution key which is a specific control key from the navigational panel 107 or the remote controller 109seeing this telop. CPU101 will execute the program for two-way communication after S20if it detects that there were directions of communicate mode by distinction of the numerical value which a key directs (YES judging of drawing 7 of S10). CPU101 once takes out to RAM103 the notice information decoded by the decoder 112and write this in the video memory 54 after changing into a character patternand the controller 55 for a display is controlledA window is opened to a part of image (113 of drawing 2)and a notice information message is displayed on the display 56 (S20 of drawing 7). A message can also be superimposed on a video signalwithout opening a window. The example of a screen at this time is shown in D10 of drawing 9. A window and superposition may be used together.

[0040]NextCPU101 reads the message (code string) which stimulates the input of User Information from ROM102and a message is displayed on the display 56 by writing in the video memory 54 after changing into a character pattern (S30 of drawing 7). A user will enter a self password using the ten key of the navigational panel 107 or the remote controller 109if the display of this message is seen (S40 of drawing 7). The example of a screen at this time is shown in D20 of drawing 9. The inside of ** in a figure shows a ten key input.

[0041]A user operates the execution key of the navigational panel 107 or the remote controller 109and directs a communicative start. CPU101 gives a call origination command to the modem 111 via I/O105. TherebyCPU101 calls the sub computer 304 of the database center 300 with an auto-login functionand the modem 111 transmits User Information and notice informationafter connecting with a network by an autodial function (S50 of drawing 7). Thenthe system 101 waits for the response from the sub computer 304 (loop processing of S60 of drawing 7).

[0042]On the other handin the sub computer 304 of a database center. If user ID and a password are received according to the call origination from the navigation television 100When it compares whether these are registered beforehand and the result of collation shows the disagreement of un-registering of user IDor a passwordresponse transmission of the disapproval signal which shows the disapproval of future communications is carried out to the navigation television 100 (S200->S225 of drawing 8).

[0043]When user ID shows a registration settled as a result of

collationthe sub computer 304 transmits database ID and program ID to the host computer 303and makes it compare whether it is what was beforehand prepared in the broadcast program. If there is disagreement as a result of collationa communication disapproval signal will be transmitted to the navigation television 100 (S210->S220->S225 of drawing 8). If collation is rightthe sub computer 304 will perform predetermined communication between the host computer 303 and the navigation television 100 (S220->S230->S240 of drawing 8). After ending predetermined communicationa terminate signal is transmitted and the control procedure of drawing 8 is ended (S250 of drawing 8).

[0044]If it returns to drawing 7 and CPU101 of the navigation television 100 receives permission / disapproval signal via the modem 111 from the sub computer 304 (S60 of drawing 7)It directs to the modem 111 in order to advance a procedure to S100 and to cut the public line 200when this signal shows communicative disapproval (S70->S100 of drawing 7). When an input signal shows permissionCPU101 performs communication with a sub computerIt displays on the display 56 by writing the communication information sent in the video memory 54Specification of the coded data inputted from the ten key of the navigational panel 107 or the remote controller 109for examplegoods and a colorspecification of a payment methodand a credit number are transmitted to the sub computer 304 via the modem 111 (S70->S80 of drawing 7). CPU101 displays the inputted coded data also on the display 56 of the main part 106 of a television set via the video memory 54. When a ten key input is mistakenit corrects by a canceling key. The example of a screen of communication information is shown in D30 of drawing 9. The inside of ** in a figure shows a ten key input. If the above-mentioned password and communication of a credit number are made into encryption communicationthey are safe.

[0045]HereafterCPU101 operates as a communication control circuit of this inventionand performs transmit/receive control of information until it receives a terminate signal from the sub computer 304. The information received from the sub computer 304 is displayed on the display 56 (loop processing of S80-S90 of drawing 7). Receiving a terminate signalCPU101 makes a public line intercept and ends this procedure (S100). Although not shown in a figureif the stop control key provided in the navigational panel and the remote controller is operateda series of communications controls can be terminated always.

[0046]Although this example explained the case where the sub computer of a direct database center was accessed from a public lineit is more general to access a database center via the Internet or a commercial online service. In this casewhat is necessary is to transpose the host

computer 303 to a database serverto transpose the bus 305 to a networkand just to consider the sub computer 304 of drawing 5 to the gateway processor of the Internet or a commercial online service.

[0047]Although the example of the navigation television shown in drawing 2drawing 3and drawing 4 assumes a CCTVif there are a television reception function and a personal computer with a built-in modemthe navigation television function described above with the program application software of the personal computer is easily realizable. For examplein drawing 3a personal computer with a built-in modem and program software can be substituted for CPU101ROM102RAM103the nondestructive memory 104I/O105the modem 111and the navigational panel 107. A game machine with a built-in modem can also be substituted for these functions. If a personal computer with a built-in modem with a television reception function or a game machine with a built-in modem with a television reception function is usedin addition to the aboveit can substitute also for the tuner 52 of drawing 4the demodulator 53the speaker 57the video memory 54the controller 55 for a displayand the display 56. Howeverthe mechanism which decodes the notice information inserted in the retrace line period of television in this caseand can control CPU is required. In additionit is also possible to constitute decoding of notice informationinformation inputtinga modemand the control device that has a function of communications control apart from a TV bodyand to use this control deviceconnecting as an adapter of television.

[0048]Although this example showed the case where notice information was inserted in the retrace line period of televisionit is also possible to decode the notice information which carried out the telop of all the notice information to TV footage and in which the telop was carried out by image processing from the received image. Howevera telop decipherment processor is required in this case.

[0049]Drawing 10 shows another example of the navigation television 100. Although the communication information of drawing 9 shows an example of two-way communication with a database centerin order to carry out fine service of grain according to liking and hope of the userit needs to make notice information from a database center Toyotomi more. At this timethere are many unclear things only at a screen display. Soin the example of drawing 10the function in which a sound also outputs the communication information from a database center in addition to carrying out a screen display is provided. The communication information from a database center is sent to the speech synthesizer 58 from the data bus 110is changed into an audio signaland is compounded with a television

sound by the voice controller 59and voice response is carried out from the loudspeaker 57. In a voice controllerit can change to one side by a switch function besides the method of mixing a sound.

[0050]Drawing 11 and drawing 12 show other examples of communications control. In the example of drawing 7 and drawing 8when user ID was not beforehand registered into a database centerthe case where communication was not materialized was shown. Howeverin order to cope with the various application using television broadcastingit can be necessary to be made to perform a user's ID registration by an easy method also to the user who begins. Drawing 11 and drawing 12 are the examples of the communications control of navigation television and a database center which added the ID registration function to the first userrespectively.

[0051]In the figuredrawing 7drawing 11 and drawing 8and drawing 12 correspondand the same number has shown the same function. In drawing 11with a user terminalcommunicate mode is set up and it is judged whether it is initial registration in the stage where storing and a display of notice information were performed (S21 of drawing 11). A user can also be made to be able to choose this and a system can also judge it automatically. When it is not initial registrationit is the same as drawing 7. In initial registrationa call request is advanced to a networkit registers it the first stage according to guidance of the initial registration which a network provides (S61->S22 of drawing 11)and it moves from it to after that usual communicate mode. The communications control by the side of the database center corresponding to this is the same as drawing 8 except initial registrationas shown in drawing 12. If there is a demand of initial registration from a userlike the online registration of personal computer communicationsthe initial registration program S202 will work and registration will be demanded from a user. After this is completeda user is made to check user ID and a passwordand if it is O.K.it will move to the usual communicate mode. In ID / password confirmation programin order to avoid an inaccurate user's registrationcredit datasuch as a credit numberare checked (S203 of drawing 12).

[0052]Although this example showed the case of TV shoppingIn addition to thisthe navigation television 100 is applicable to a matchscore anticipationetc. of the questionnaire of a televiewer's quiz reply in a quiz showthe examination outcome from the televiewer of a popular music show or an entertainments program and a popularity votenewsor a debateand a sports program.

[0053]Nextthe case where this invention is applied to radio is explained. Let the navigation device 100 and the antenna 51 be the antennas for

navigation radio and radios in drawing 1respectively. Let the
broadcasting center 400 be a radio broadcast center. From a broadcasting
centernotice information is broadcast synchronizing with a radio
programand the navigation device 100 receives this radio program and
notice information. Since information required for access of a database
center is included in notice informationin communicate modetwo-way
communication can be easily carried out to the database center 300 via
the public line 200. The basic function of a database center is the same
as the case of television application.

[0054]In order to transmit notice informationthe DCH of the FM multiplex
telecasting defined with the postal administration ministerial ordinance
No. 30 of April 28Heisei 6 issue is usedfor example. That isprogram
broadcastssuch as shoppingquizand a questionnaireare performed in a
radio programand the notice information of the place-for-application
database center is broadcast using a DCH synchronizing with this. As
other methods of carrying out multiplex [of the data communications]
to FM radioRDS (Radio-Data.) developed in Europe System and the
literature EBU REVIEW. SCA developed in TCHNICAL No.200pp.186-
192August1983or the U.S. (literature IEEE TRANSACTIONS Subsidiary
Communications Authorization) ON BROADCASTINGVOL.BC-27No.4pp.65-
70DECEMBER 1981etc. can be used.

[0055]The example of navigation radio is shown in drawing 13. In the
figurealthough the component of the same function as drawing 3drawing
4and drawing 10 is expressed as the same numberin order to clarify a
difference on radio and televisiona is attached as a suffix. In a
figureby the normal modeit is caught with the antenna 51aand tunes in
with the tuner 52aa sound gets over with the demodulator 53aand a radio
broadcast is outputted with the switch 57a. On the other handin
communicate modethe notice information broadcast by the decoder 112a
synchronizing with the radio program is decoded from a DCHand it
displays on the display 56a via display memory 54a through the common
bus 110a by control of CPU101a. The small size and low-power-consumption
type thing for character representations in a displayfor examplea liquid
crystal displayis used. After checking notice informationalthough the
method of performing information and telecommunications with a database
center is completely the same as that of the case of
televisionexplanation is omitted. Howeversince it is thought that there
is much use with a transfer car like mounted radio as a gestalt using
radiodrawing 13 has shown the case where communication to a public line
from the modem 111a is performed through the radio antenna 51b. Of
coursea cable may be sufficient as this. The function of the speech

synthesizer 58a and the voice controller 59a is the same as what was explained by drawing 10.

[0056]The navigation radio shown in drawing 13 is realizable combining the art of mount radio with a data-broadcasting receiving functionand a mounted telephone. That isthe antenna 51athe tuner 52athe demodulator 53aand the loudspeaker 57a are the usual radio receiving functionsand the decoder 112athe display memory 54athe display 56aCPU101aROM102aand RAM103a are contained in a data-broadcasting receiver. The navigational panel 107athe handset 105aand the antenna 51b are carried in the mounted telephone. Thereforenavigation radio is realizable if the modem 111a and the non-destroying memory 104a for User Information storing are added to these. Since many functions which can be shared [CPU / a display] are included also in the car navigatorcombining with a car navigator is also possible. If a removable magnetic cardan optical cardan IC carda credit cardetc. are used as nondestructive memoryit is the same as that of the case of television application to become convenience more. It is also as television application having explained that utility value increases by to realize communications control with a database center by autodial and auto-login and making communication of a password or a credit number into encryption communication.

[0057]

[Effect of the Invention]As explained aboveaccording to this inventionthe user can realize two-way communication now easily between the database centers guided by the telop and radio broadcast of television broadcasting. On the other handin the side which provides serviceUser Information can be efficiently obtained now by two-way communication with a user.

[0058]When the navigation television which carries out such two-way communication uses the art of a teletext receiver or a personal computernavigation radio can be provided as a safe thing by combining a car radioa mobile radiotelephoneand car navigator art again that it is cheap and easy to use.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1]It is a block diagram showing the system configuration of this invention example.
[Drawing 2]It is a perspective view showing the appearance of the navigation television of this invention.

[Drawing 3]It is a block diagram showing the circuitry of the navigation television 100 of this invention example.
[Drawing 4]It is a block diagram showing the circuitry of the main part 106 of a television set of drawing 3.
[Drawing 5]It is a block diagram showing the system configuration of the database center 300 of drawing 1.
[Drawing 6]It is an explanatory view showing the means of communication of this example.
[Drawing 7]It is a flow chart which shows the control procedure which CPU101 of drawing 3 performs.
[Drawing 8]It is a flow chart which the sub computer 304 of drawing 5 performs.
[Drawing 9]It is a figure showing the example of the window screen displayed on the display 56 via the video memory 54.
[Drawing 10]It is a block diagram showing other examples of drawing 4.
[Drawing 11]It is a flow chart which shows other examples of drawing 7.
[Drawing 12]It is a flow chart which shows other examples of drawing 8.
[Drawing 13]It is a block diagram showing the circuitry figure of navigation radio.
[Description of Notations]
101 CPU
102 ROM
103 RAM
104 Nondestructive memory
105 I/O
106 The main part of a television set
111 Modem
112 Decoder
100 Navigation device
200 Public line
300 Database center
400 Broadcasting center